WHAT IS CLAIMED IS:

SUB A1

1. A purified nucleic acid comprising a nucleotide sequence encoding for at least 5 contiguous amino acids of SEQ. ID. NO. 8.

2. The nucleic acid of claim 1, wherein said nucleotide sequence encodes for amino acids 1-5 of SEQ. ID. NO. 8.

3. The nucleic acid of claim 1, wherein said nucleotide sequence encodes for at least 9 contiguous amino acids of SEQ. ID. NO. 8.

SUB A2

4. The nucleic acid of claim 1, wherein said nucleic acid comprises at least about 18 contiguous nucleotides of SEQ. ID. NO. 7.

5. The nucleic acid of claim 1, wherein said nucleic acid comprises the nucleotide sequence of SEQ. ID. NO. 3.

6. The nucleic acid of claim 1, wherein said nucleotide sequence encodes for the amino acid sequence of SEQ. ID. NO. 4.

7. The nucleic acid of claim 1, wherein said nucleic acid comprises the nucleotide sequence of SEQ. ID. NO. 5.

8. The nucleic acid of claim 1, wherein said nucleotide sequence encodes for the amino acid sequence of SEQ. ID. NO. 6.

SUB A3

9. An expression vector comprising a nucleotide sequence encoding for a polypeptide comprising at least 5 contiguous amino acids of SEQ. ID. NO. 8.

10. The expression vector of claim 9, wherein said nucleotide sequence is functionally coupled to an exogenous promoter.

SUB A4

11. The expression vector of claim 10, wherein said nucleotide sequence encodes for at least 9 contiguous amino acids of SEQ. ID. NO. 8.

12. The expression vector of claim 10, wherein said expression vector comprises the nucleotide sequence of SEQ. ID. NO. 3.

13. The expression vector of claim 10, wherein said nucleotide sequence encodes the amino acid sequence of SEQ. ID. NO. 4.

14. The expression vector of claim 10, wherein said expression vector comprises the nucleotide sequence of SEQ. ID. NO. 5.

15. The expression vector of claim 10, wherein said nucleotide sequence encodes the amino acid sequence of SEQ. ID. NO. 6.

16. A recombinant cell comprising the expression vector of claim 9.

17. A method of preparing a MCH receptor polypeptide comprising the step of growing the recombinant cell of claim 16 under conditions wherein said polypeptide is expressed from said expression vector.

18. A purified nucleic acid comprising a region of 20 contiguous nucleotides, wherein at least 16 nucleotides present in said region hybridize to a complementary region of 20 contiguous nucleotides present in SEQ. ID. NO. 7 or the complement thereof.

19. A polypeptide comprising an amino acid sequence encoding for at least about 9 contiguous amino acids of SEQ. ID. NO. 8, wherein said polypeptide is substantially free of associated proteins.

20. The polypeptide of claim 19, wherein said polypeptide comprises the amino acid sequence of SEQ. ID. NO. 4.

21. The polypeptide of claim 19, wherein said polypeptide comprises the nucleotide sequence of SEQ. ID. NO. 6.

22. A method for screening for a compound able to bind a MCH receptor comprising the steps of:

(a) expressing a polypeptide comprising the amino acid sequence of SEQ. ID. NO. 4, SEQ. ID. NO. 6, or a fragment thereof, from recombinant nucleic acid, provided that said fragment comprises at least about 9 contiguous amino acids of SEQ. ID. NO. 8;

(b) providing to said polypeptide a test preparation comprising one or more test compounds; and

(c) measuring the ability of said test preparation to bind to said polypeptide.

23. The method of claim 22, wherein said steps (b) and (c) are performed *in vitro*.

24. The method of claim 22, wherein said steps (a), (b) and (c) are performed using a whole cell.

25. The method of claim 22, wherein said polypeptide is expressed from an expression vector.

26. The method of claim 25, wherein said polypeptide comprises the amino acid sequence of SEQ. ID. NO. 6.

27. The method of claim 25, wherein said step (b) further comprises the presence of labeled MCH, and said step (c) measures the ability of said test preparation to inhibit binding of said labeled MCH to said polypeptide.

28. A method for screening for a compound able to modulate MCH receptor activity comprising the steps of:

(a) contacting a cell line expressing recombinant nucleic acid encoding for a MCH receptor comprising the amino acid sequence of SEQ. ID. NO. 4 or 6 with a test preparation comprising one or more test compounds; and

(b) measuring the effect of said test preparation on the activity of said receptor.

29. The method of claim 28, wherein said MCH receptor comprises the amino acid sequence of SEQ. ID. NO. 4.

30. The method of claim 28, wherein said MCH receptor consists of the amino acid sequence of SEQ. ID. NO. 6.

31. The method of claim 30, wherein said method further comprises the presence of an MCH receptor agonist.

32. A method for suppressing appetite comprising the step of administering to a patient an effective amount of means for decreasing MCH receptor expression targeting a nucleic acid region within SEQ. ID. NO. 7.

33. The method of claim 32, wherein said means is enzymatic nucleic acid or antisense nucleic acid.